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AMENDMENTS TO THE CLAIMS

1-11. (Canceled)

12. (Currently amended) A single use endoscope that is removably connectable to a reusable control unit to form a system for examining an internal body cavity of a patient, comprising:

a shaft having a proximal end, a distal end and a number of lumens therein;

an articulation joint at or adjacent the distal end ~~for allowing the distal end of the shaft to be selectively oriented;~~

~~a number of control cables that pull the articulation joint in a desired direction;~~

an imaging assembly at or adjacent the distal end of the shaft to produce images of the internal body cavity, the imaging assembly including:

a cap ~~having at least one illumination port~~ through which illumination light ~~may~~ passes and an imaging port; and

a heat exchanger assembly including one or more light emitting diodes mounted ~~therein~~ thereon, a cooling channel in thermal contact with the light emitting diodes, a lens assembly and a solid state imaging device, wherein the heat exchanger assembly is insertable into the cap.

13. (Currently amended) The single use endoscope of Claim 12, wherein the heat exchanger includes two light emitting diodes and the cap of the imaging assembly includes two illumination ports aligned with the two light emitting diodes, ~~each having a window which is molded into a front face of the cap.~~

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14. (Original) The single use endoscope of Claim 12, wherein the heat exchanger includes a cylindrical recess into which a cylindrical lens assembly is fitted in order to retain the lens assembly in the heat exchanger.

15. (Currently amended) The single use endoscope of Claim 13, wherein ~~each window of the illumination port~~ the illumination ports include a window that is coated with a phosphor.

16. (Original) The single use endoscope of Claim 15, wherein the phosphor is applied to an inside surface of the illumination port windows with an adhesive.

17. (Original) The single use endoscope of Claim 15, wherein the image assembly includes a cable having at least two shielded leads for transmitting image signals from the solid state imaging device differentially.

18-31. (Canceled)

32. (Currently amended) An imaging system for use with an endoscope, comprising:  
a cap having a front face ~~having openings therein for~~ through which illumination light ~~passes and an image sensor;~~

a heat exchanger that is fitted within the cap, the heat exchanger including:

~~at least one or more light emitting diodes mounted thereon;~~

~~an image sensor secured thereto;~~

a channel in thermal contact with the one or more light emitting diodes; and

a recess into which a lens assembly is fitted and aligned with the image sensor.

33. (Currently amended) The imaging system of Claim 32, wherein the front face of the cap has windows therein that are aligned with the one or more light emitting diodes.

34. (Original) The imaging system of Claim 33, wherein the windows have a phosphor coating on an inside surface thereof.

35. (Original) The imaging system of Claim 34, wherein the phosphor coating is mixed with an epoxy.

36. (Original) The imaging system of Claim 35, wherein the epoxy is curable with an ultraviolet light shown through the windows of the cap.

37. (Currently amended) The imaging system of Claim 32, wherein the cap has a flushing port molded into a front face of the cap that directs a flushing liquid over the cap in front of the lens assembly.

38-55. (Canceled)

56. (New) The single use endoscope of Claim 12, wherein the one or more light emitting diodes are mounted on a circuit board that is fitted in the channel of the heat exchanger.

57. (New) The single use endoscope of Claim 56, wherein the heat exchanger includes a thermistor that produces a signal proportional to the heat of the distal end of the endoscope.

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58. (New) The imaging system of Claim 32, wherein the one or more light emitting diodes are mounted on a circuit board that is positioned within the channel and the channel allows a cooling fluid to flow against a surface of the circuit board to remove heat from the one or more light emitting diodes.

59. (New) The imaging system of Claim 32, wherein the recess in which the lens assembly is fitted is generally circular and the channel is generally semicircular in shape and is positioned around the perimeter of the recess.

60. (New) The imaging system of Claim 32, wherein the heat exchanger includes a thermistor that produces a signal that is indicative of the heat of a distal end of the endoscope.

61. (New) An endoscope comprising:  
a flexible shaft having a proximal end and a distal end and a working channel lumen therein;  
a cap on the distal end of the shaft including an opening to the working channel of the endoscope;  
a heat exchanger that is fitted within the cap, the heat exchanger including:  
a channel through which a cooling liquid passes;  
a circuit board having one surface that contacts the cooling liquid in the channel and another surface on which one or more light emitting diodes are mounted.

62. (New) The endoscope of Claim 61, wherein the heat exchanger includes a recess into which a lens assembly is fitted and aligned with an image sensor.

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63. (New) The endoscope of Claim 62, wherein the image sensor is secured to the heat exchanger in line with the lens assembly.

64. (New) The endoscope of Claim 61, wherein the heat exchanger includes a temperature sensor that produces signals indicative of the temperature at the distal end of the endoscope.

65. (New) An endoscope comprising:

a shaft having a proximal end, a distal end and a working channel;

a cap at the distal end of the shaft;

an insert including:

an illumination source;

a heat exchanger that supports the illumination source, the heat exchanger including a channel in which a liquid is passed and is warmed by heat from the illumination source; and

an image sensor that produces imaging signals of tissue.

66. (New) The endoscope of Claim 65, wherein the heat exchanger supports a lens assembly in line with the image sensor.

67. (New) The endoscope of Claim 65, wherein the illumination source is mounted on a circuit board having a surface that contacts the liquid within the channel.

68. (New) The endoscope of Claim 65, wherein the heat exchanger further includes a thermistor that produces a signal indicative of the heat of the distal tip of the endoscope.

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69. (New) An endoscope comprising:

- a shaft;
- a cap at an end of the shaft;
- an insert that is fitted within the cap, the insert including:
  - one or more illumination sources that generate heat when producing illumination light;
  - a heat exchanger including a channel in which a fluid is passed to remove heat from the end of the shaft;
  - a image sensor that is supported by the heat exchanger; and
  - a lens assembly that focuses light onto the image sensor,

wherein the channel of the heat exchanger forms a recess in the heat exchanger that holds the lens assembly in position to focus light onto the image sensor.